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NOTIFICATION CONCERNING
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From the INTERNATIONAL BUREAU

To:

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in its capacity as designated Office

Date of mailing (day/month/year)

25 September 2000 (25.09.00)

International application No.

PCT/ZA99/00090

International filing date (day/month/year)

16 September 1999 (16.09.99)

Applicant

ROSSOUW, Francois, Jacobus

The International Bureau transmits herewith the following documents and number thereof:

_____ cop(ies) of priority document(s) (Rule 17.2(a))

The International Bureau of WIPO
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1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Christine Carrié

Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

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NOTIFICATION OF ELECTION

(PCT Rule 61.2)

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Date of mailing (day/month/year) 23 June 2000 (23.06.00)	
International application No. PCT/ZA99/00090	Applicant's or agent's file reference
International filing date (day/month/year) 16 September 1999 (16.09.99)	Priority date (day/month/year) 04 November 1998 (04.11.98)
Applicant ROSSOUW, Francois, Jacobus	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
29 May 2000 (29.05.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32.2 applies, within the time limit under Rule 32.2(b).

ZA 99
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The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Henrik Nyberg Telephone No.: (41-22) 338.83.38
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PATENT COOPERATION TREATY

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NOTIFICATION CONCERNING
SUBMISSION OR TRANSMITTAL
OF PRIORITY DOCUMENT

(PCT Administrative Instructions, Section 411)

From the INTERNATIONAL BUREAU

To:

DUNLOP, Alan, J., S.
Hahn & Hahn Inc.
222 Richard Street
Hatfield
0083 Pretoria
AFRIQUE DU SUD

Date of mailing (day/month/year) 25 September 2000 (25.09.00)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference	
International application No. PCT/ZA99/00090	
International publication date (day/month/year) 11 May 2000 (11.05.00)	
Applicant ROSSOUW, Francois, Jacobus	International filing date (day/month/year) 16 September 1999 (16.09.99) Priority date (day/month/year) 04 November 1998 (04.11.98)

1. The applicant is hereby notified of the date of receipt (except where the letters "NR" appear in the right-hand column) by the International Bureau of the priority document(s) relating to the earlier application(s) indicated below. Unless otherwise indicated by an asterisk appearing next to a date of receipt, or by the letters "NR", in the right-hand column, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
2. This updates and replaces any previously issued notification concerning submission or transmittal of priority documents.
3. An asterisk(*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b). In such a case, **the attention of the applicant is directed** to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
4. The letters "NR" appearing in the right-hand column denote a priority document which was not received by the International Bureau or which the applicant did not request the receiving Office to prepare and transmit to the International Bureau, as provided by Rule 17.1(a) or (b), respectively. In such a case, **the attention of the applicant is directed** to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

<u>Priority date</u>	<u>Priority application No.</u>	<u>Country or regional Office or PCT receiving Office</u>	<u>Date of receipt of priority document</u>
04 Nove 1998 (04.11.98)	98/10140	ZA	11 Sept 2000 (11.09.00)
08 Marc 1999 (08.03.99)	99/1818	ZA	11 Sept 2000 (11.09.00)

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740.14.35	Authorized officer Christine Carrié Telephone No. (41-22) 338.83.38
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REC'D 29 JAN 2001

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference ./.	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/ZA99/00090	International filing date (day/month/year) 16/09/1999	Priority date (day/month/year) 04/11/1998
International Patent Classification (IPC) or national classification and IPC B44D3/12		
Applicant ROSSOUW, Francois, Jacobus		



1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 7 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 1 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 29/05/2000	Date of completion of this report 25.01.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Schreiber, M Telephone No. +49 89 2399 2831 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/ZA99/00090

I. Basis of the report

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments (Rules 70.16 and 70.17).):*

Description, pages:

1-12 as originally filed

Claims, No.:

5-24 as originally filed

1-4 as received on 14/12/2000 with letter of 14/12/2000

Drawings, sheets:

1/6-6/6 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/ZA99/00090

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☒ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

see separate sheet

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☒ claims Nos. 22-24.

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 22-24 are so unclear that no meaningful opinion could be formed (*specify*):
see separate sheet

☒ the claims, or said claims Nos. 22-24 are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

2. A meaningful international preliminary examination report cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/ZA99/00090

1. Statement

Novelty (N)	Yes: Claims 7-20
	No: Claims 1-6,21
Inventive step (IS)	Yes: Claims
	No: Claims 1-21
Industrial applicability (IA)	Yes: Claims 1-21
	No: Claims

2. Citations and explanations see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/ZA99/00090

Re Item I

Basis of the report

The amendments filed with the letter dated 14.12.2000 introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 34(2)(b) PCT. The amendment concerned is the following:

the central opening is more than 50% of the total area of the device

No direct and unambiguous disclosure could be found for the value of 50% and thus the skilled person is presented with information which is not directly and unambiguously derivable from that previously presented by the application (see the PCT-Guidelines IV-7.9).

The International preliminary examination report will be established as if this amendment had not been made (see the PCT-Guidelines IV-7.8).

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

Claims 22 to 24 are unclear, since a device according to eg claim 1 can be cut out of a conventional lid of a paint container with suitable tools. It therefore remains unclear which features the lids according to claims 22 to 24 actually have.

Furthermore such a lid has not been disclosed in the description and therefore these claims are not supported by the description.

Consequently no opinion with regard to novelty, inventive step and industrial applicability could be established.

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Document DE-A-2 140 189 (= document D1), which is considered to represent the most relevant state of the art, discloses (cf. page 2, paragraph 2, page 4, paragraphs 2 and 3 and the figure) a device from which the subject-matter of claim 1 does not differ.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/ZA99/00090

The upper surface of the float 3 can be considered as fluid applicator engagement means and the two elongated openings 4 can be considered as the substantially central opening which permits a stirrer element to be inserted therethrough into the container for, in use, stirring the fluid in the container, wherein the central opening is divided into two openings by a broad arm (see eg Fig. 8 of the present application which shows that such an interpretation of the wording of claim 1 is intended by the applicant).

The feature that the central opening permits a predominant portion of the applicator to come in direct contact with the fluid in the container is disclosed by document D1, since according to D1 the paint is flowing through the openings 4, thus permitting the whole roller 6 to come in direct contact with the fluid paint in the container 1 (see especially page 4, the second full paragraph).

Dependent claims 2 to 21 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, the reasons being as follows:

The additional features of claims 2 to 6 and 21 are already known from document D1 (see page 2, 3rd line of the second paragraph and the figure; the ring is the area of the float around the two elongated openings 4.)

In each of claims 7 to 20 a slight constructional change in the device of document D1 is defined which comes within the scope of the customary practice followed by persons skilled in the art, especially as the advantages thus achieved can readily be foreseen. Consequently, the subject-matter of claims 7 to 20 also lacks an inventive step.

Re Item VII

Certain defects in the international application

The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D1 is not mentioned in the description, nor is this document identified therein.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/ZA99/00090

Re Item VIII

Certain observations on the international application

As explained below, some of the features in the apparatus claim 1 relate to a method of using the apparatus in combination with a container containing a fluid and a stirrer element rather than clearly defining the apparatus in terms of its technical features. The intended limitations are therefore not clear from this claim, contrary to the requirements of Article 6 PCT.

With the wording an "applicator engagement device useful for an applicator for a fluid to be applied from a container, ... said device has a substantially central opening to permit a predominant portion of the applicator... and to permit a stirrer element to be inserted..." neither the container, nor the fluid, nor the applicator, nor the stirrer element are part of the subject-matter of claim 1. Therefore features which define characteristics of the subject-matter of the claim by reference to entities which are not part of the subject-matter of the claim are unclear (see the PCT-Guidelines III, 4.8a), eg the feature that the support is sized and dimensioned complementary to the container.

The same objection applies correspondingly to the dependent claims 2, 4, 5, 6.

Claim 8 should not refer back to claim 6, since the arms are only mentioned in claim 7. Likewise claims 9 and 15 should not refer back to claim 7, since the centre piece is only mentioned in claim 8.

It remains unclear what the fluid dispenser mentioned in claims 16 and 20 is supposed to be.

AMENDED SHEETS

Claims

1. An applicator engagement device useful for an applicator for a fluid to be applied from a container, said device having a support sized and dimensioned
5 complementarily to the container to permit axial movement of said support within the container, said device having fluid applicator engaging means co-operating with said support, said device being characterized in that said device has a substantially central opening which is more than 50% of the total area of the device to permit a predominant portion of the applicator to come in direct contact
10 with the fluid in the container and to permit a stirrer element to be inserted therethrough into the container for, in use, stirring the fluid in the container.
2. A device as claimed in claim 1, wherein the support is of a material selected to float on the fluid in the container.
- 15 3. A device as claimed in claim 2, wherein the support is a ring which is circular, oval, polygonal, square, rectangular, trapezoidal, or the like.
4. A device as claimed in any one of claims 1 to 3, wherein the support is of
20 larger cross sectional dimension than the axial length of the fluid applicator with which it is to be used, said support being adapted to float at or on the surface of the fluid with the fluid applicator engaging means at or just below the surface of the fluid.

Claims

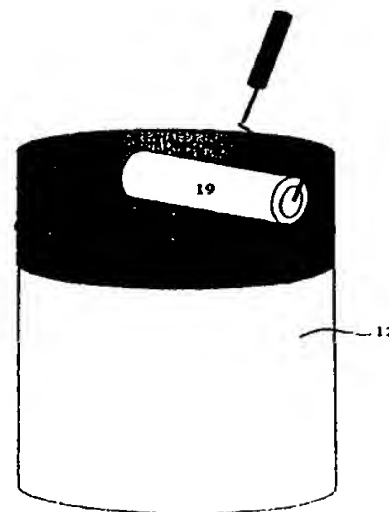
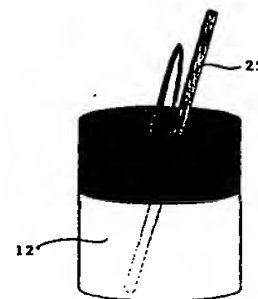
1. An applicator engagement device useful for an applicator for a fluid to be applied from a container, said device having a support sized and dimensioned complementarily to the container to permit axial movement of said support within the container, said device having fluid applicator engaging means co-operating with said support, said device being **characterised in that** said device has a substantially central opening to permit a stirrer element to be inserted therethrough into the container for, in use, stirring the fluid in the container.
2. A device as claimed in claim 1, wherein the support is of a material selected to float on the fluid in the container.
3. A device as claimed in claim 2, wherein the support is a ring which is circular, oval, polygonal, square, rectangular, trapezoidal, or the like.
4. A device as claimed in any one of claims 1 to 3, wherein the support is of larger cross sectional dimension than the axial length of the fluid applicator with which it is to be used, said support being adapted to float at or on the surface of the fluid with the fluid applicator engaging means at or just below the surface of the fluid.

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : B44D 3/12	A1	(11) International Publication Number: WO 00/26038 (43) International Publication Date: 11 May 2000 (11.05.00)
(21) International Application Number: PCT/ZA99/00090 (22) International Filing Date: 16 September 1999 (16.09.99) (30) Priority Data: 98/10140 4 November 1998 (04.11.98) ZA 99/1818 8 May 1999 (08.05.99) ZA (71)(72) Applicant and Inventor: ROSSOUW, Francois, Jacobus [ZA/ZA]; 1 Rossouw Road, Bedfordview, 2007 Johannesburg (ZA). (74) Agents: DUNLOP, Alan, J., S. et al.; Hahn & Hahn Inc., 222 Richard Street, Hatfield, 0083 Pretoria (ZA).		(81) Designated States: AE, AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), DM, EE, EE (Utility model), ES, FI, FI (Utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>

(54) Title: FLUID APPLICATOR ENGAGEMENT DEVICE**(57) Abstract**

The invention provides an applicator engagement device for a fluid applicator. The device is in the form of a float (10), which is adapted in use to fit within a bucket (12) containing paint (14). The float (10), which is a plastics moulding, comprises a peripheral ring (16) which is of inverted "U"-shape in section and faces downwardly. The ring (16) is spanned by three equi-spaced flexible arms (22) radiating from a central ring (24) to join the ring (16) at its edge, this flexibility permitting the last bit of fluid to be gotten to by the roller. The arms (22) are narrow so that area circumscribed by the ring (16) is substantially open to permit paint to pass therethrough. The ring (24) is sized to permit a stirrer, such as a paddle (25) to be inserted therethrough into the bucket (12) to stir the paint (14) without the need to remove the float (10) from the bucket (12).



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FLUID APPLICATOR ENGAGEMENT DEVICE

Field of the Invention

5 This invention relates to a fluid applicator engagement device. In particular, the invention relates to said engagement device for an applicator for a viscous fluid coating composition, such as paint.

Background of the Invention

10

Paint and other coating compositions for application to large surface areas are normally supplied in large buckets or drums. In South Africa, typical bucket sizes in which paint is normally supplied to domestic consumers include both round and polygonal cylindrical 20 and 25 litre buckets. When

15 paint is to be applied by an applicator such as a roller, the paint is normally dispensed into a tray in which a roller surface will be brought into contact with paint and the paint is applied to the roller surface. This tray has a small capacity and must be regularly refilled. The large paint bucket, especially the

20 twenty five litre bucket, normally has a diameter greater than the axial length of the roller. Thus painters are inclined to saturate the roller directly in the bucket thereby obviating the necessity of charging and recharging the tray, and thereby also attempting to maximise the surface coverage per charge of paint on the roller. Although this technique has its advantages, a major problem arises in that the roller does not turn on its bearings when brought

25 into contact with the paint so that it does not operate satisfactorily as the roller is submerged in the paint. Furthermore, the paint needs to be stirred

periodically and thus any obstruction of the mouth of the bucket which does not permit stirring of the paint in the bucket without first removing the obstruction is undesirable.

5 **Summary of the Invention**

According to one aspect of the invention there is provided a fluid applicator engagement device useful for an applicator for a fluid to be applied from a container, said device having a support sized and dimensioned
10 complementarily to the container to permit axial movement of said support within the container, said device having fluid applicator engaging means co-operating with said support, said device being **characterised in that** a substantially central opening is provided to permit a stirrer element to be inserted therethrough into the container for, in use, stirring the fluid in the
15 container and also facilitating maximum fluid contact with the applicator therethrough.

The support may be of a material selected to float on the fluid in the container. Thus the axial movement of the device in the container may be
20 due to the device floating on a changing fluid level within the container.

The substantially central opening may be circular, oval, polygonal, rectangular, square, or the like.

In this specification, unless the context clearly indicates to the contrary, the terms "float", "floatable" and "floating", are to be understood as meaning that the applicator engagement device is only slightly submerged and in large lies on top of the fluid surface.

5

The support may be a support in the form of a ring.

The ring may define the periphery of the device.

10

The support may be of larger cross sectional dimension than the axial length of the fluid applicator with which it is to be used, said support being adapted to float at or on the surface of the fluid with the fluid applicator engaging means at or just above the surface of the fluid.

15

Where the fluid applicator is a roller, the support and fluid applicator engaging means are adapted so that the roller can be rolled over at least part of the fluid applicator engaging means and come in contact with the fluid in the container.

20

Typically, the fluid in the container is a coating composition, such as paint, and the roller picks up the paint onto its applicator surface or nap by the action of rolling it over the fluid applicator engaging means and bringing the applicator surface or nap into contact with the paint surface in the container.

The fluid applicator engaging means conveniently comprises spaced arms within the support, conveniently including a centre piece from which the arms radiate.

- 5 The arms may be made of a flexible material, the length of the arms determining the freedom of movement of the centre piece relative to the support.

The arms may be made of a resiliently deformable material.

10

The centre piece may be biased by the resiliently deformable arms into the plane of the support, or to any other required plane which determines the depth of immersion of the applicator engaging element in the fluid.

- 15 The centre piece may comprise the substantially central opening. Projections are preferably provided on the centre piece and/or the arms to engage the fluid applicator, where the fluid applicator is a roller, to cause it to rotate.

- 20 However, an upper surface of the arms may be substantially co-planar with the plane of the support.

The support may conveniently be of inverted channel-shape section to assist it to float.

25

The support and/or the arms and/or the centre piece may be provided with an axially directed lip or flange to increase the fluid drag of the device and to inhibit dunking thereof in the fluid.

5 The support may however be made of any material having a density lower than that of the fluid in the container, for example, wood, plastic, polyurethane foam, foam rubber, polystyrene, rubber, or the like.

10 The support is typically made of a material which has a buoyancy only slightly higher than that of the fluid.

15 The support may be made of a plastics material having a cellular nature, such that the air trapped in the cells contributes to the buoyancy thereof. The cells may be small to inhibit the entrapped air in the cells from escaping if the device is tilted at an angle to the containers longitudinal axis.

20 The projections may comprise elongated lugs which are upstanding above the plane of the support. Alternatively the projections may be triangular lugs, or the like.

25 In another embodiment, the support is non-planar in cross section and adapted to include a fluid applicator engaging portion while being provided with a stirrer aperture configured to permit the fluid in the container to be stirred without removing the applicator engagement device from the container.

Typically the support of this embodiment is dimensioned to engage the end zones of a roller fluid applicator, such as a paint roller, and to bring said applicator into contact with the fluid in the container.

5 In a typical embodiment, the cross section is arcuate, for example, parabolic, hyperbolic, or the like.

The applicator engagement device may be provided with a floor co-operable with the support, the floor being adapted to permit engagement with
10 a fluid applicator while permitting a desired quantity of fluid to come into contact with the applicator.

The device may have a logo, or other information provided thereon, such that when the applicator engagement device is floating in a fluid the logo
15 or other information may be read.

The floor may have a plurality of perforations distributed over its extent, or be in the form of a grid or an apertured screen.

20 According to a further aspect of the invention there is provided a container for a fluent coating composition, the container including a lid and an applicator engagement device substantially as described above.

The fluid engagement device may be integral with the lid, the lid being
25 provided with removable zones configured such that when the removable

zones are removed the remainder of the lid forms said device in accordance with the invention.

The removable zones may have frangible borders to the remainder of the lid in order to facilitate removal thereof.

Description of the Drawings

Embodiments of the invention will now be described by way of example with reference to the accompanying drawings.

In the drawings:-

Figure 1 is a top plan view of an applicator engagement device of the invention,

Figure 2 is a bottom plan view of the device of Figure 1,

Figure 3 is a section of Figures 1 and 2,

Figure 4 is a section of a further float of the invention,

Figure 5 is a plan view of Figure 4,

Figure 6 is a bottom plan of a floor useable with the device,

Figure 7 is a section through the floor of Figure 6,

Figure 8 is a plan view of a rectangular device in accordance with the
invention,

Figure 9 is schematic view of a paint roller in use with the device,

Figure 10 is a schematic of an applicator engagement device being
placed into a bucket,

Figure 11 is a schematic of bucket with a stirrer paddle,

Figure 12 is schematic of a roller in use in a bucket with an applicator
engagement device, and

Figure 13 is a side section view of the device of Figure 8.

Referring now to Figures 1, 2, 3, 10, 11 and 12, there is provided an
applicator engagement device of the invention, in the form of a float 10, which
is adapted in use to fit within a bucket 12 containing paint 14.

The float 10, which is a plastics moulding, comprises a peripheral ring
16 which is of inverted "U"-shape in section and faces downwardly and has a
lip 17. The ring 16 is spanned by three equi-spaced flexible arms 22 radiating

from a central engagement ring 24 to join the ring 16 at its top edge. The arms 22 are narrow so that the area circumscribed by the ring 16 is substantially open to permit paint to pass therethrough. The engagement ring 24 is sized to permit a stirrer, such as a paddle 25 to be inserted therethrough
5 into the bucket 12 to stir the paint 14 without the need to remove the float 10 from the bucket 12. The engagement ring 24 is substantially circular and is located centrally or co-axially within the ring 16.

On the engagement ring 24 there are provided roller engagement
10 projections 26. These projections 26 are elongated lugs and extend above the height of the ring 16.

The dimensions of the float 10 are such that its maximum diameter is 250 mm which is appropriate to fit into most 25 litre buckets which normally
15 have a diameter of 280 mm, or more, (i.e. there is a space between the periphery of the ring 16 and the interior of the pail contrary as shown in Figure 11). The arms 22 extend between the ring 16 and the engagement ring 24 so that the engagement ring 24 is in the same plane as the ring 16. The arms 22 are conveniently about 2 mm thick and 4 mm wide resiliently
20 deformable plastic.

The height of the projections 26 is approximately 5 mm and, standing on the engagement ring 24 gives an overall height of 15 mm.

In use, the float 10 is dropped on to the surface of the paint whereafter the paint 14 in the bucket 12 is stirred. The ring 16, and in particular the air entrapped therein, will cause the float 10 to float on the surface but with the engagement ring 24 on top of the paint. A workman can now charge or load a roller 19 by running the roller over the arms 22, engagement ring 24 and/or ring 16 of the float 10. The projections 26 will engage the surface of the roller to cause it to rotate when it is moved over the arms 22, engagement ring 24 and/or ring 16. The resiliency of the arms 22 will inhibit the roller from being depressed too deeply into the paint so that only the surface of the roller will be charged with paint. It will be understood of course that should the workman wish to force the float downwardly he would be able to do so, but knowing the disadvantage of so doing, he will be inhibited from so doing by the float.

The resiliency of the arms 22 also permits the last remaining paint in the bucket to be used. When the bucket is substantially empty the ring 16 lies on the bottom of the bucket and when the roller is pressed onto the engagement ring 24 and the arms 22, the engagement ring 24 will be pressed into the remaining paint thereby permitting it to be picked up by the roller.

Reference is now made to Figures 4 and 5 which show a float 30 which is similar to float 10. However, float 30 has a supporting ring 32 having a substantially parabolic cross section 33 extending from the perimeter 34 to the central opening 36. In use, the parabolic section 33 engages the end zones of a roller thereby rotating the roller for taking up paint onto its surface.

Reference is now made to Figures 6 and 7 which show a floor 40 that is usable with float 30. The floor 40 has a perforated element 42. The floor 40 has projections 46 for engaging with a roller and drainage apertures or perforations 48 to permit paint to come into contact with the roller and to drain excess paint back again. The floor 40 has downwardly directed locating pins 43 for locating the floor 40 within float 30.

Reference is now made to Figures 8 and 13, which show a float 60 which is similar to float 30. However, float 60 has a supporting ring 62 which is rectangular and having a divided central opening 64, which is divided into a larger opening 66 and a smaller opening 68 by a cross member 69 so as to permit smaller rollers to be used therewith. In use, the supporting ring 62 and cross member 69 engage the end zones of a roller thereby rotating the roller for taking up paint onto its surface.

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The float 60, as shown in figure 13, has a wiper portion 70 extending upwardly from the supporting ring 62 in an arcuate fashion so as to facilitate wiping of excess paint of the roller prior to taking it out of the container.

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The invention is not limited to the precise constructional details hereinbefore described and illustrated in the drawings. For example, a lifting tab may be provided to facilitate the removal of the float from the bucket.

The inventor believes that a device made in accordance with the invention as illustrated has several advantages:

- because in some embodiments the roller ends engage the device, the roller ends have less paint applied to them and thus are less likely to drip;
- because of the central opening and the equi spaced arms being quite narrow in comparison to the overall area of the device, high fluid to roller contact area is maintained in the container even when the device is floating on the surface of the fluid; and
- the resiliently deformable arms, besides permitting the last bit of fluid to be gotten to by the roller, also assist in the stirring of the fluid in the container by deforming and permitting the centre piece to be displaced during the stirring action.

Claims

1. An applicator engagement device useful for an applicator for a fluid to be applied from a container, said device having a support sized and dimensioned complementarily to the container to permit axial movement of said support within the container, said device having fluid applicator engaging means co-operating with said support, said device being **characterised in that** said device has a substantially central opening to permit a stirrer element to be inserted therethrough into the container for, in use, stirring the fluid in the container.
2. A device as claimed in claim 1, wherein the support is of a material selected to float on the fluid in the container.
3. A device as claimed in claim 2, wherein the support is a ring which is circular, oval, polygonal, square, rectangular, trapezoidal, or the like.
4. A device as claimed in any one of claims 1 to 3, wherein the support is of larger cross sectional dimension than the axial length of the fluid applicator with which it is to be used, said support being adapted to float at or on the surface of the fluid with the fluid applicator engaging means at or just below the surface of the fluid.

5. A device as claimed in any one of the preceding claims, wherein, in the case of the fluid applicator being a roller, the support and fluid applicator engaging means are adapted so that the roller can be rolled over at least part of the fluid applicator engaging means to bring it in contact with the fluid in the container.
6. A device as claimed in any one of the preceding claims, wherein the fluid in the container is a coating composition, such as paint, and the roller picks up the paint onto its applicator surface by the action of rolling it over the fluid applicator engaging means and the fluid surface.
7. A device as claimed in claim 6, wherein the fluid applicator engaging means comprises spaced arms extending between the support and the opening.
8. A device as claimed in claim 6 or claim 7, including a centre piece defining the opening and connected to the support by the arms.
9. A device as claimed in claim 7 or claim 8, wherein the arms are made of a flexible material, the length of the arms determining the freedom of movement of the centre piece relative to the support.
10. A device as claimed in any one of claims 7 to claim 9, wherein the arms are made of a resiliently deformable material.

11. A device as claimed in claim 10, wherein the centre piece is biased by the resiliently deformable arms into the plane of the support, or to any other required plane which determines the depth of immersion of the fluid applicator engagement means in the fluid.

12. A device as claimed in any one of claims 8 to 11, wherein the centre piece comprises the stirrer element opening.

13. A device as claimed in any one of claims 7 to 12, wherein the fluid applicator engaging means is in the form of projections provided on the arms and configured to engage the fluid applicator.

14. A device as claimed in any one of the preceding claims, wherein the support is of inverted channel-shape section to assist it to float.

15. A device as claimed in any one of claims 7 to 14, wherein support and/or the arms and/or the centre piece have an axially directed lip or flange to increase the fluid drag of the device and to inhibit dunking thereof in the fluid.

16. A device as claimed in any one of the preceding claims, wherein the support is non-planar in cross section and adapted to include a fluid applicator engaging portion while being provided with a stirrer aperture configured to permit the fluid in the container to be stirred without removing the fluid dispenser from the container.

17. A device as claimed in claim 16, wherein the support is dimensioned to engage end zones of a roller fluid applicator and to bring said applicator into contact with the fluid in the container.

18. A device as claimed in any one of claims 16 to 17, wherein the cross section is parabolic, hyperbolic, or the like.

19. A device as claimed in any one of the preceding claims, wherein the device is provided with a perforated floor co-operable with the support, the floor being adapted to permit engagement with a fluid applicator while permitting a desired quantity of fluid to come into contact with the applicator.

20. A device as claimed in any one of the preceding claims, wherein a logo or other information is provided thereon, such that when the dispenser is floating in a fluid the logo or other information is readable.

21. A container for a fluent coating composition, the container including a lid and an applicator engagement device as claimed in any one of the preceding claims.

5 22. A container as claimed in claim 21, wherein the device is integral with the lid, the lid being provided with removable zones configured such that when the removable zones are removed the remainder of the lid forms the device.

23. A container as claimed in claim 22, wherein the removable zones have
10 frangible borders to the remainder of the lid in order to facilitate removal thereof.

24. A lid for a container, the lid being provided with removable zones configured such that when the removable zones are removed the remainder
15 of the lid forms a device as claimed in any one of claims 1 to 20.

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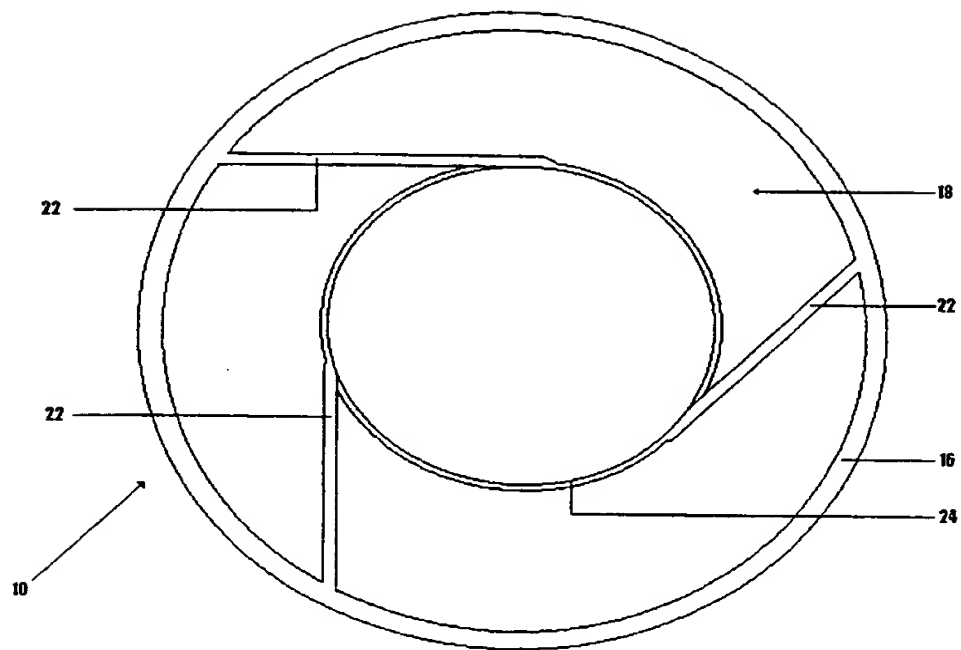


Figure 1

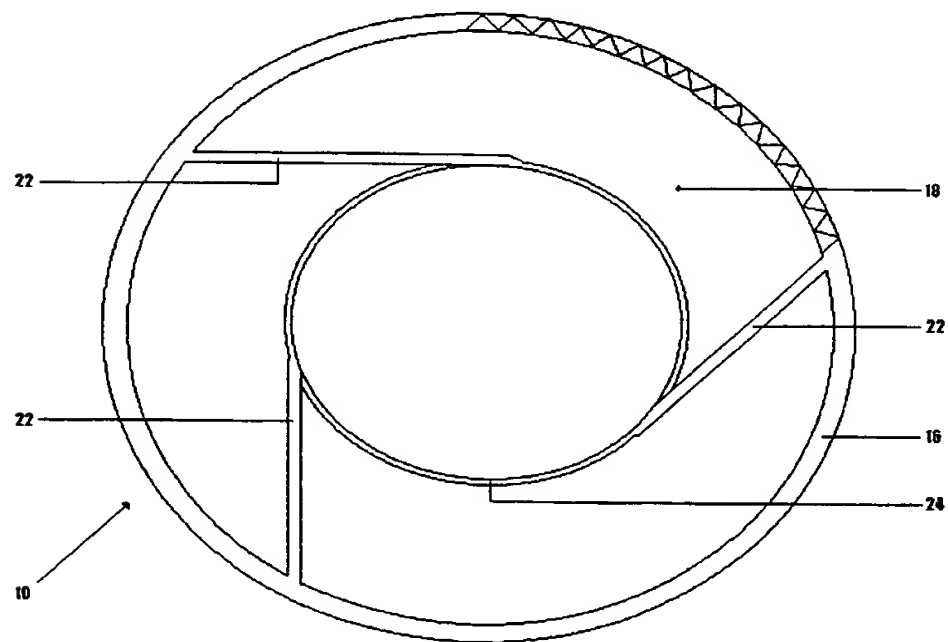


Figure 2

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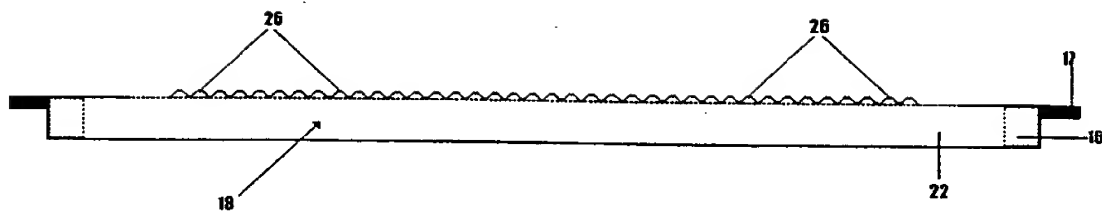


Figure 3

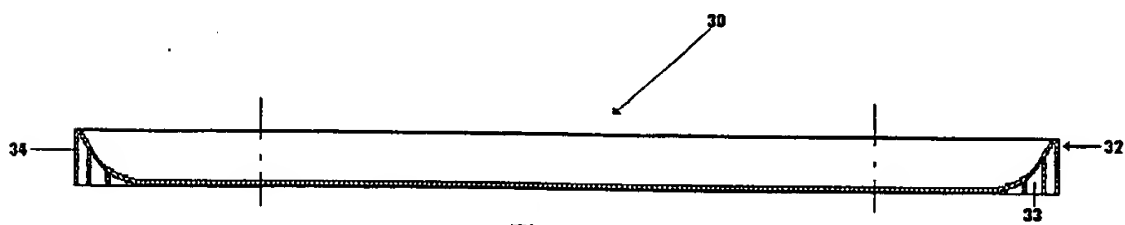


Figure 4

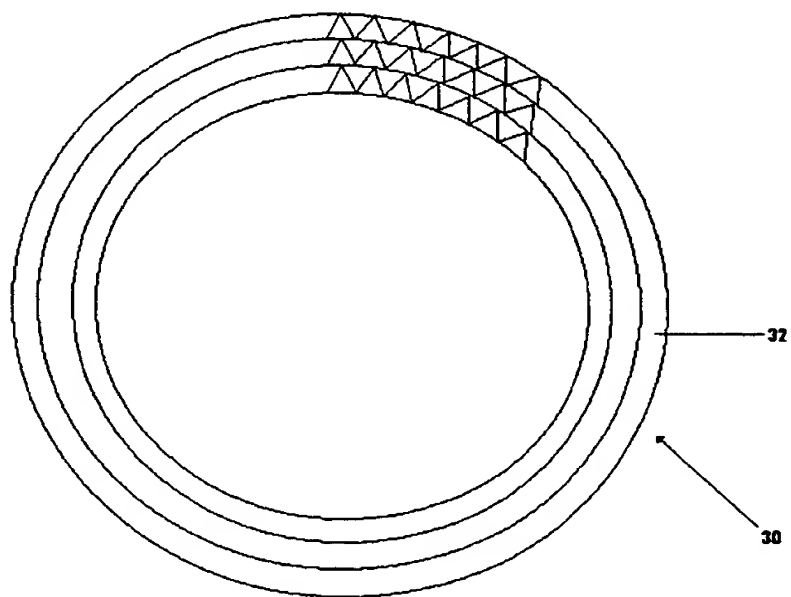


Figure 5

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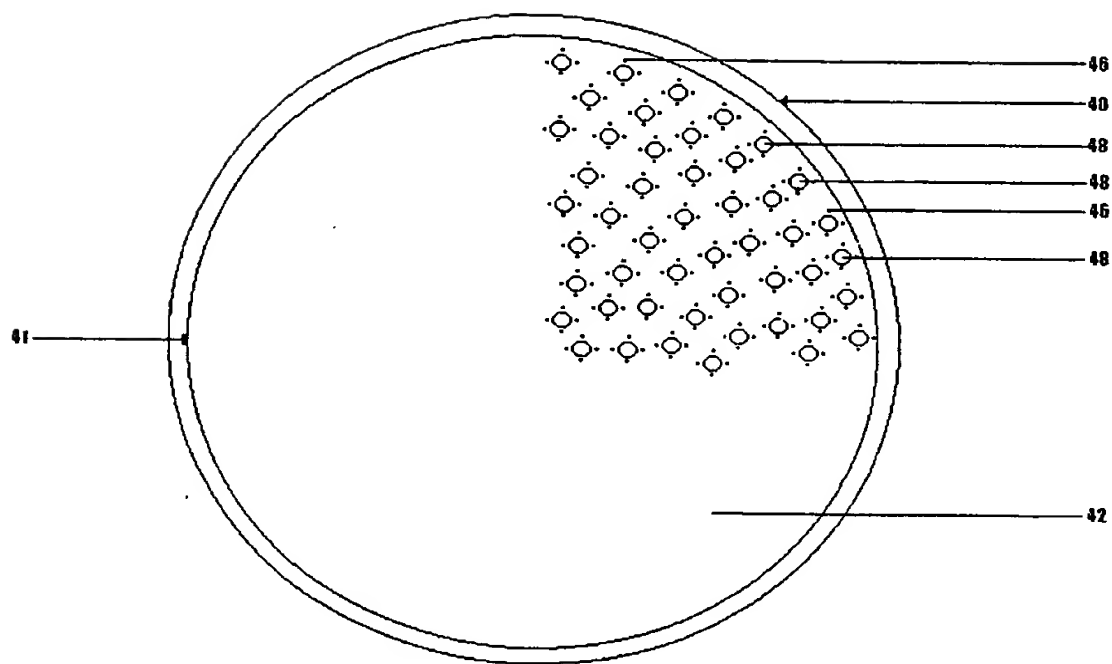


Figure 6

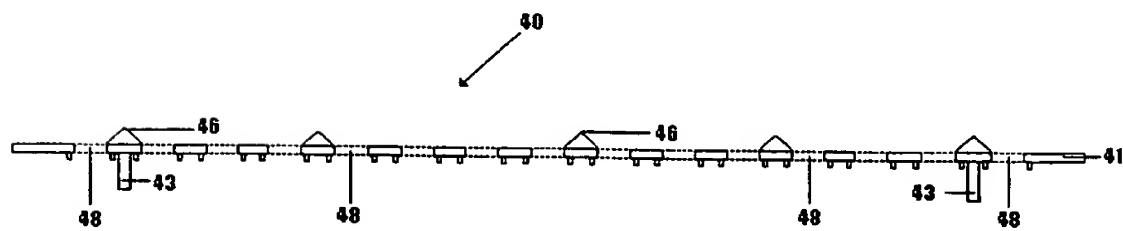


Figure 7

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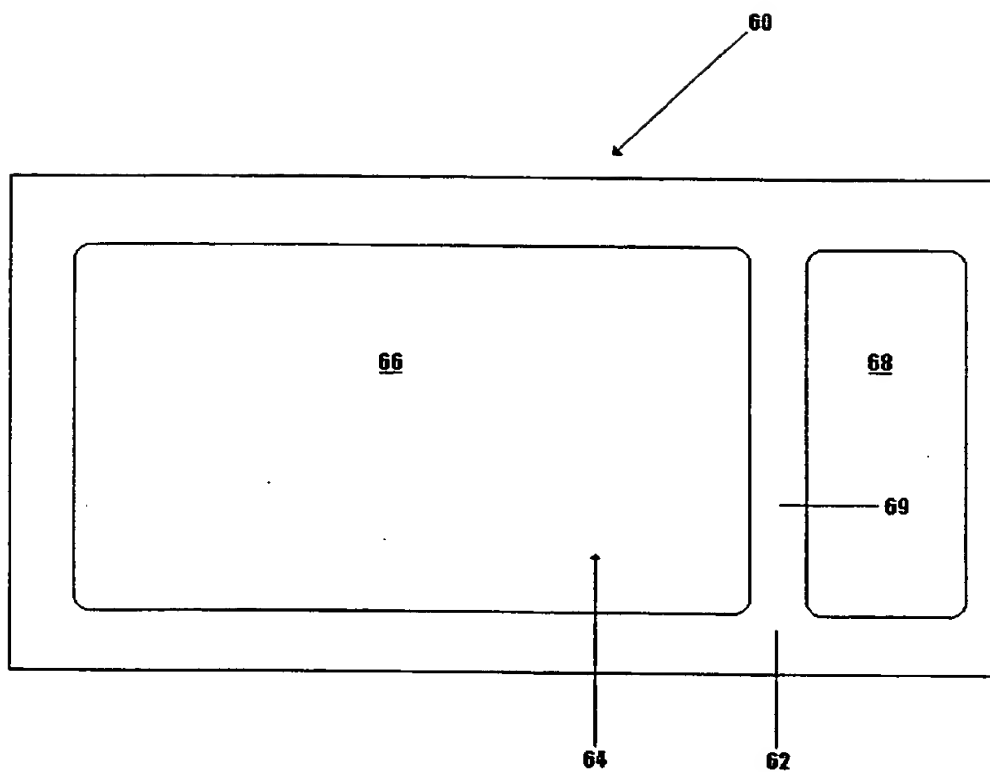


Figure 8

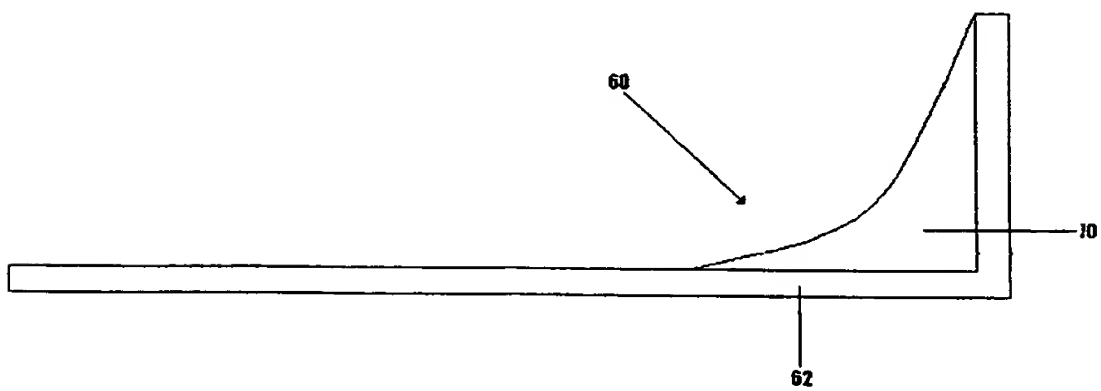


Figure 13

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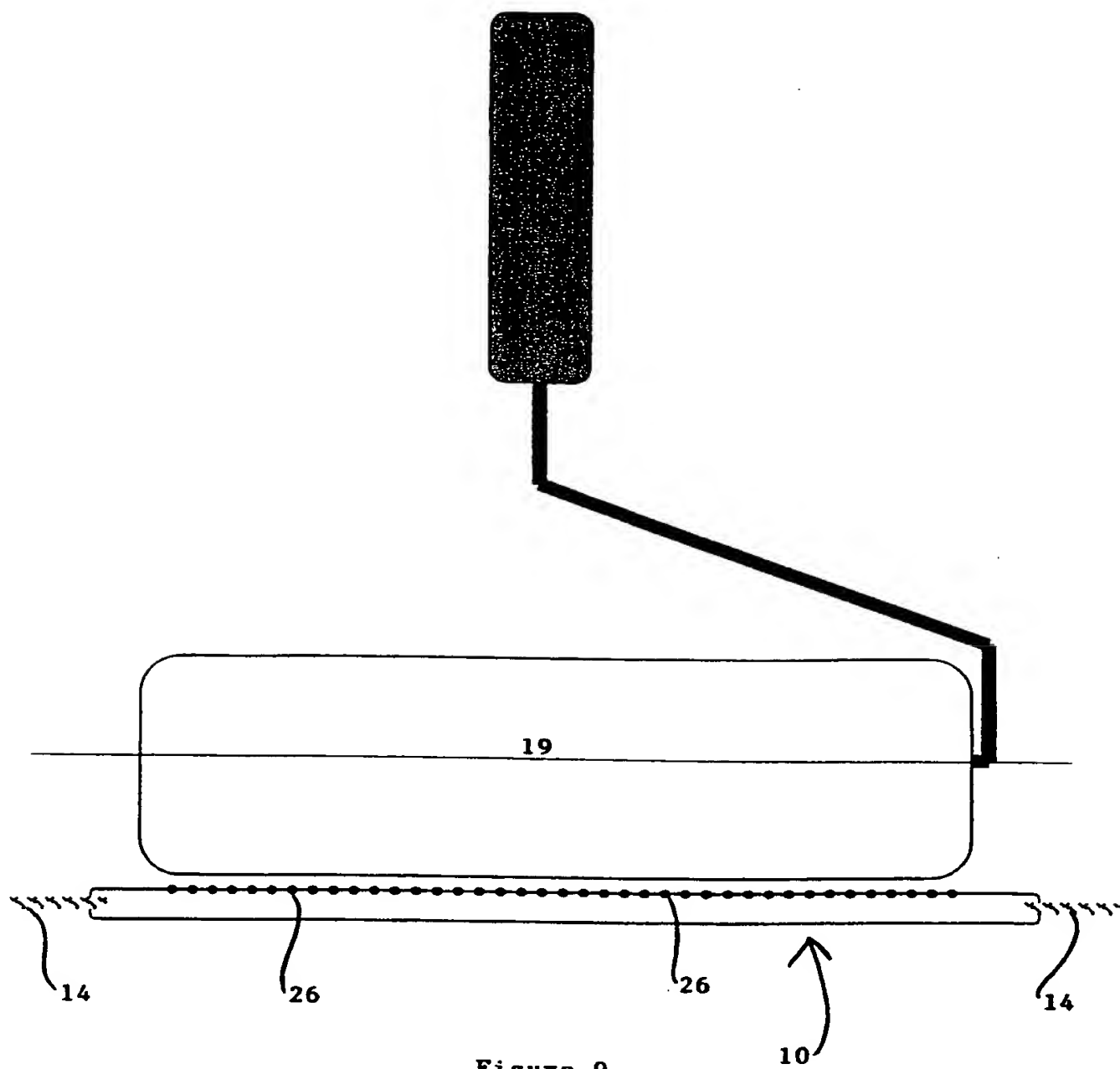


Figure 9

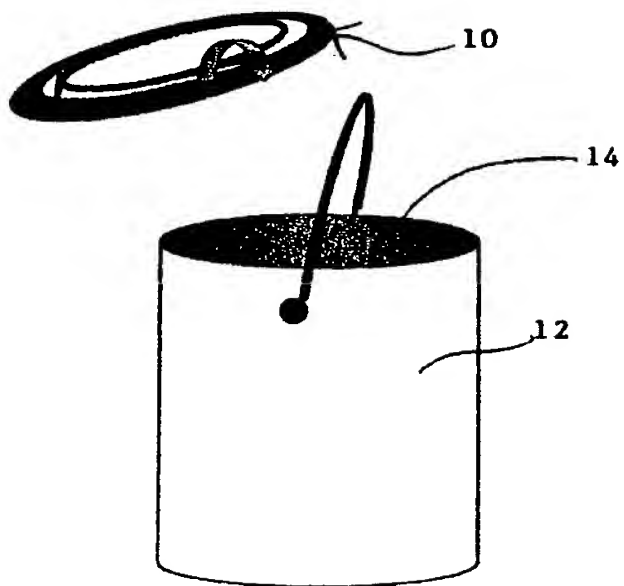


Figure 10

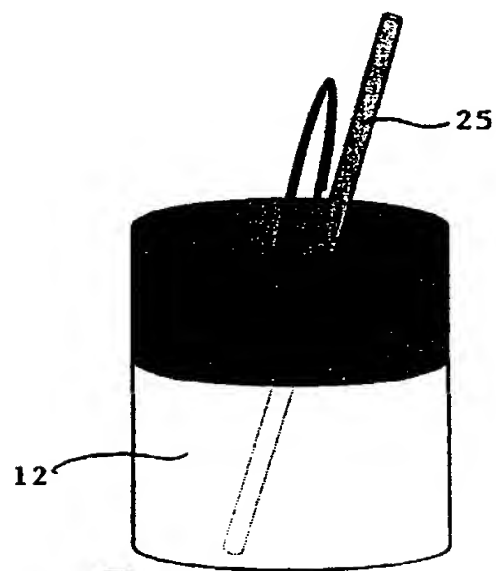


Figure 11

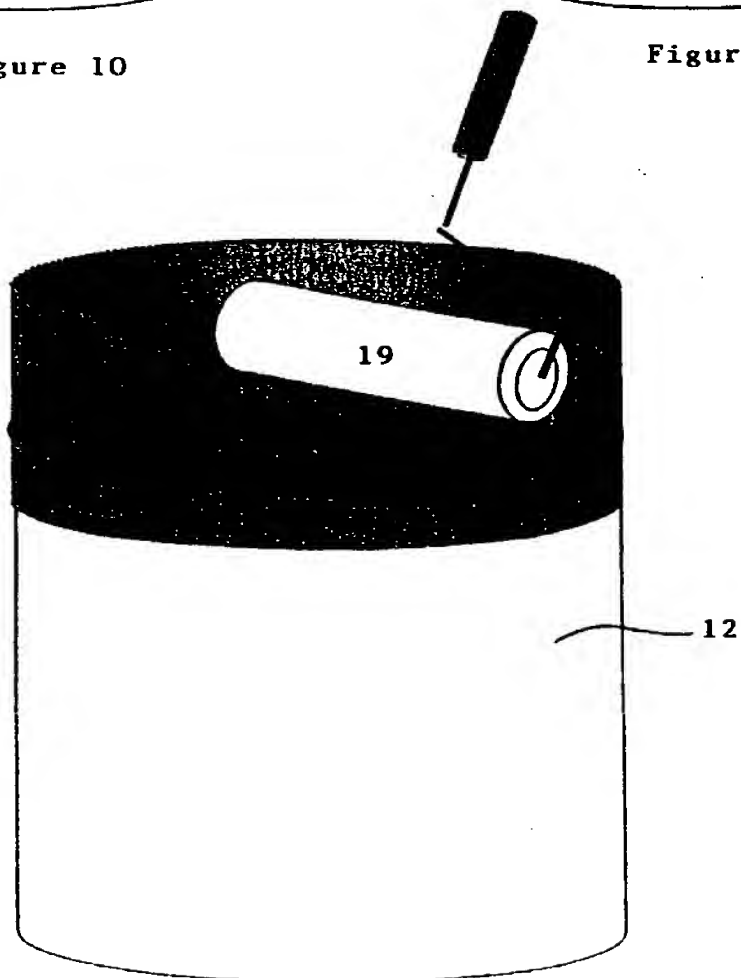


Figure 12

INTERNATIONAL SEARCH REPORT

Intern. Application No.

PCT/ZA 99/00090

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B44D3/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B44D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 533 802 A (GARGANESE RICHARD S) 9 July 1996 (1996-07-09) column 2, line 34 - line 48 ---	1
A	US 3 894 650 A (CRUMP LOUIS A) 15 July 1975 (1975-07-15) column 4, line 21 - line 30 ---	1
A	US 2 778 050 A (MEINHARDT, J.A.) 22 January 1957 (1957-01-22) column 2, line 39 - line 59 ---	1
A	DE 21 40 189 A (WEINERT FRANZ) 22 February 1973 (1973-02-22) page 2, paragraph 2 -----	1



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"Z" document member of the same patent family

Date of the actual completion of the international search

18 January 2000

Date of mailing of the international search report

25/01/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Herrmann, J

INTERNATIONAL SEARCH REPORT

Information on patent family members

Inter: Application No

PCT/ZA 99/00090

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5533802	A	09-07-1996	NONE	
US 3894650	A	15-07-1975	NONE	
US 2778050	A	22-01-1957	NONE	
DE 2140189	A	22-02-1973	NONE	